

SEARCHED INDEXED

WHAT IS CLAIMED IS:

Claim 1.

A trunnion assembly for mounting a launching device comprising:

a barrel for launching a liquid or a solid;

a horizontal locating assembly to allow for limited

horizontal movement of the the launching device; and a

vertical locating assembly for varying the inclination of
the launching device.

Claim 2. A trunnion assembly according to claim 1 including
means for varying the extent of horizontel movement of said
trunnion assembly.

Claim 3. A trunnion assembly according to claim 2 wherein
said means for varying the extent of horizontel movement of
said trunnion assembly comprise at least one movable stop
assembly.

Claim 4. A trunnion assembly according to claim 3 wherein
said means for varying the extent of vertical movement of
said trunnion assembly comprise at least one stop assembly.

Claim 5. A trunnion assembly according to claim 4 wherein
said means for varying the extent of horizontel movement of
said trunnion assembly comprise at least one resilient
movable stop assembly.

Claim 6. A trunnion assembly according to claim 5 wherein
said means for varying the extent of vertical movement of
said trunnion assembly comprise at least one resilient stop
assembly.

a
D
a
Claim 28. A trunnion assembly according to claim 27 wherein said means for varying the extent of horizontal movement of said trunnion assembly comprise at least a pair of resilient movable stop assemblies, *mounted on a base plate*.

Claim 29. A trunnion assembly according to claim 28 wherein said means for varying the extent of vertical movement of said trunnion assembly comprise at least a pair of resilient stop assemblies.

a
D
Claim 30. A trunnion assembly according to claim 29 wherein said pair of resilient stop assemblies are made of elastomeric material having an A Scale Durometer value of about 60 to 100.

Claim 31. A trunnion assembly according to claim 30 wherein said pair of resilient movable stop assemblies include stop plates and resilient bumpers.

Claim 32. A trunnion assembly according to claim 31 wherein said resilient bumpers are mounted on said stop plates. *and*

Claim 33. A trunnion assembly according to claim 32 wherein said resilient bumpers and said stop plates include openings *and located in said openings* to receive removable fasteners.

Claim 34. A trunnion assembly according to claim 33 wherein said fasteners are formed integral with said bumper. *the*

Claim 35. A trunnion assembly according to claim 12 wherein said resilient bumpers are threaded to receive said fastener.

Claim 36. A trunnion assembly according to claim 38 wherein said the extent of horizontal rotation can be varied through

selected placement of said stop assemblies on said base plate.

Claim 37. A trunnion assembly according to claim 1 wherein said means for varying the extent of vertical movement of said trunnion assembly comprise at least one resilient stop assembly located within a cylindrical casing.

Claim 38. A trunnion assembly according to claim 16 wherein said resilient stop assembly comprises a pair of cylindrical dogs, each having respective cutaway portions located within said casing and being movable on a shaft having a head located outside of said casing.

Claim 39. A trunnion assembly according to claim 17 wherein semi-cylindrical floating stops are located within said respective cutaway portions such that clearance exists between said floating stops and said dogs.

Claim 40. A trunnion assembly according to claim 18 wherein said floating stops are made of elastomeric resilient material.

Claim 41. A trunnion assembly according to claim 29 wherein said elastomeric resilient material has a Durometer value of 60 to 100, A Scale.

Claim 42. A trunnion assembly according to claim 20 wherein said head is located within a barrel extension extending outwardly from said barrel and removable fastening means are provided to render said shaft movable with said barrel about a horizontal axis.

a 43
Claim 22. A trunnion assembly according to claim 21 wherein
said resilient stop assembly extends within ~~within~~ a
horizontal stand portion and said barrel extension.

D 44
Claim 23. A trunnion assembly according to claim 22 wherein
a sleeve is located within said casing and means are
provided to vary the extent of ~~vertical~~
horizontal axis.

P 45
Claim 24. A trunnion assembly according to claim 23 wherein
said means to vary the extent of ~~vertical~~
horizontal axis comprises a sleeve having elongated openings
to receive removable fasteners to allow limited
adjustability of the extent of vertical travel of said
barrel about said horizontal axis.

Claim 25.

A launching device comprising:

an accumulator located below a barrel assembly;

said barrel assembly mounted on a trunnion;

said barrel assembly including means for launching a substance selected from liquid, or solid, and mixtures thereof; substance;

said trunnion including a horizontal locating assembly to allow for limited horizontal movement of the launching device; and a

vertical locating assembly for varying the inclination of said barrel assembly;

said barrel assembly in fluid communication with said accumulator;

conduit means for supplying liquid to said accumulator;

first valve means in said conduit means is in fluid communication with said accumulator;

control means for controlling said first valve means;

to control opening and closing of said first valve means, and in open position allowing fluid to pass from said

accumulator into said barrel assembly, and to be discharged from barrel assembly.

Claim 26. A launching device according to claim 25 wherein said valve assembly includes a solenoid valve.

Claim 27. A launching device according to claim 25 wherein said valve assembly includes a second on and off valve.

Claim 28. A launching device according to claim 25 wherein said launching device includes a stanchion assembly including

a curved stand having a vertical portion, a curved portion
and a horizontal portion.

D a
D
Claim 29. A launching device according to claim 28 wherein
said vertical portion includes a lower end ^{portion} which extends
into a bearing assembly.

Claim 30. A launching device according to claim 29 wherein
said bearing assembly includes a cylindrical enclosure
which receives a cylindrical bearing which is connected to
said end portion with removable fastening means.

Claim 31. A launching device according to claim 30 wherein
said end portion 24 extends below a mounting plate.

Claim 32. A launching device according to claim 31 wherein
horizontal locating assembly is mounted on said ^{mounting} base plate.

Claim 33. A launching device according to claim 31 wherein
said horizontal locating assembly includes ^{at least one} lug means
mounted on said end portion with removable fasteners.

Claim 34. A launching device according to claim 33 wherein
said lug means includes a cylindrical stop ring having an
outwardly extending lug integrally connected thereto.

Claim 35. A launching device according to claim 33 wherein
said lug means engage stop assemblies to determine
~~at least one~~ horizontal movement.

Claim 36. A launching device according to claim 35 wherein
said stop assemblies include horizontal stop plates upon
which stops are mounted vertically.

13

Claim ~~37~~ 37. A launching device according to claim ~~36~~ 36, wherein resilient bumpers made of elastomeric material are mounted on said stops.

14

Claim ~~38~~ 38. A launching device according to claim ~~37~~ 37 wherein said elastomeric material has a Durometer value of about 60 to 100, A Scale.

Claim ~~39~~ 39. A launching device according to claim 37 wherein fasteners extend through openings in said stops, and through said bumper openings in said resilient bumpers.

Claim 40. A launching device according to claim 29 wherein said valve assembly is connected to a flexible conduit means including a first fluid containing conduit into said lower stand end portion, through said stand, through stand horizontal portion and into said barrel assembly.

Claim 41. A launching device according to claim 40 wherein second flexible conduit carrying electrical wires is also fed into said lower stand end portion, through said stand, through said stand horizontal portion and into said barrel assembly.

Claim ~~42~~ 42. A launching device according to claim 41 wherein said first flexible conduit extends through a barrel to a second end of the barrel, which houses a liquid orifice assembly.

Claim ~~43~~ 43. A launching device according to claim ~~42~~ 42 wherein said second flexible conduit extends through a barrel to a first barrel end to a light assembly to light the liquid

~~5~~ carried into said orifice assembly and is discharged
therefrom.

~~74~~ ¹⁹ Claim ~~45~~ A launching device according to claim ~~44~~ wherein
said light assembly includes an electrical switch connected
to said electrical wires, a light bulb, a lens and a
discharge activating ~~button~~.

~~75~~ ²⁰ Claim ~~46~~ A launching device according to claim ~~44~~ wherein
said orifice assembly includes a discharge orifice.

00000000000000000000000000000000

21
~~26~~

Claim 47. A vertical locating assembly for varying the inclination of a launching device comprising:
at least one resilient stop assembly located within a cylindrical casing;
said resilient stop assembly including a pair of cylindrical dogs, each having ~~respective~~ cutaway portions located within said casing and being movable on a shaft having a head located outside of said casing;
semi-cylindrical floating stops located within ~~said~~ respective cutaway portions such that clearance exists between said floating stops and said dogs.

~~47~~ 22
~~46~~ 21

Claim 48. A vertical locating assembly according to claim 47 wherein said floating stops are made of elastomeric resilient material.

~~78~~ 23
~~47~~ 21

Claim 49. A vertical locating assembly according to claim 48 wherein said elastomeric resilient material has a Durometer value of about 60 to 100, A Scale.

~~22~~
~~47~~ 24
~~48~~ 21

Claim 49. A vertical locating assembly according to claim 48 wherein said head is located within a barrel extension extending outwardly from a launching barrel and removable fastening means are provided to render said shaft movable with said barrel about a horizontal axis.

~~25~~
~~49~~ 24

Claim 50. A vertical locating assembly according to claim 49 wherein said resilient stop assembly extends within a horizontal stand portion which supports said barrel.

Add 22
One
No. 1